# MARKET OPPORTUNITIES FOR USER SITE HARDWARE SERVICES FROM REMOTE COMPUTING SERVICES COMPANIES

VOLUME I

CUSTOM REPORT

Prepared For:

SEI CORPORATION

INPUT LIBRARY

MARCH 1980

© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

MARKET OPPORTUNITIES FOR
USER SITE HARDWARE SERVICES FROM
REMOTE COMPUTING SERVICES COMPANIES

VOLUME I

TABLE OF CONTENTS


| | | Page |
|---|---|---|
| I | INTRODUCTION | 1 |
| | A. Purpose And Scope | 1 |
| | B. Research And Methodology | 2 |
| II | EXECUTIVE SUMMARY | 5 |
| | A. Market Forecast | 5 |
| | B. Market Strategy And Market Penetration | 8 |
| | 1. Market Strategy | 8 |
| | 2. Market Penetration | 12 |
| | C. Buying Process | 14 |
| | D. Recommendations | 15 |
| III | USER ISSUES | 19 |
| | A. Current Trust Processing | 19 |
| | B. Trust Applications Automated | 21 |
| | C. Role In Trust System Selection | 21 |
| | D. USHS Interest | 24 |
| | E. USHS Applications | 24 |
| | F. USHS Interfaces | 28 |
| | G. Trust Master File Availability | 28 |
| | H. USHS Characteristics | 32 |


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

MARKET OPPORTUNITIES FOR
USER SITE HARDWARE SERVICES FROM
REMOTE COMPUTING SERVICES COMPANIES

VOLUME I

## LIST OF EXHIBITS


| | | | Page |
|---|---|---|---|
| II | -1 | User Site Hardware Services Market In The United States | 6 |
| | -2 | Key Areas Of Agreement Among EDP Managers And End Users For Buying USHS | 9 |
| | -3 | Reasons For Buying USHS As Rated Separately By End Users And EDP Managers | 11 |
| III | -1 | Current Method Of Personal Trust Data Processing As Reported By Trust Department Respondents | 20 |
| | -2 | Major Trust Applications Using EDP As Reported By Trust Department Respondents | 22 |
| | -3 | Assessment Of Changing Role Of End User In Trust Department Computer/Service Procurement As Reported By Trust Department Respondents | 23 |
| | -4 | Typical Respondent Comments On The End User Role In Trust Computer/Services Selection | 25 |
| | -5 | Trust Services Vendors That Trust Department Respondents Would Consider For USHS | 26 |
| | -6 | Applications Trust Department Respondents Would Consider Operating On USHS | 27 |
| | -7 | Trust Department Respondents' Needs For USHS Interfaces | 29 |
| | -8 | Importance Of Updating Trust Master File On-Line And In Real Time As Reported By Trust Department Respondents | 30 |
| | -9 | Typical Comments By Trust Department Respondents On Importance Of Updating Trust Master File On-Line And In Real Time | 31 |
| | -10 | Importance Of USHS Functions As Reported By Trust Department Respondents | 33 |


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

# I INTRODUCTION

# I INTRODUCTION

## A. PURPOSE AND SCOPE

- The primary objectives of this study of the market for user site hardware services (USHS) from remote computing services companies were to:
  - Determine the market for information processors at customer sites from RCS companies.
  - Estimate market penetration based on alternative marketing strategies, including the approaches of ADP Network Services, Inc., National CSS, Inc., and GEIS Company.
  - Analyze the sales and buying processes for the products.
  - Make recommendations for both market entry and expansion.
- Following on the earlier work presented in INPUT's report, "Opportunities in User Site Hardware Services," INPUT conducted an in-depth analysis among vendors, EDP managers, financial executives, and end users concerning attitudes toward, and plans for, RCS vendor-supplied user site hardware services.
- Each client was contacted for their special concerns.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- Issues that are client specific are addressed here in Volume I.

- Concerns common to all participating clients are included in the general research reported in Volume II.

## B. RESEARCH AND METHODOLOGY

- The research conducted in this report primarily addresses RCS vendor offerings termed user site hardware services (USHS) which:

  - Place intelligent hardware (i.e., terminals, microcomputers, minicomputers) at the user's site, or at the vendor's site dedicated to the user's use.

  - Offer user access to the RCS vendor's communications network.

  - Offer user access, through the vendor's RCS networks, to the RCS vendor's mainframes or to other RCS vendor intelligent hardware supplied to the user.

  - Offer significant vendor-supplied software for execution on vendor-supplied intelligent hardware.

- User site hardware services (USHS) are viewed as an alternative delivery method of remote computing services (RCS). As such, USHS both impacts and expands that marketplace.

  - Impacts by replacing vendor remote delivery services revenues.

  - Expands by replacing in-house timesharing and by offering new services to additional USHS users.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- The study focused on the USHS approaches and offerings of three current vendors:
  - ADP Network Services, Inc. ONSITE system.
  - National CSS, NCSS 3200 series system.
  - GEIS Company MARKLINK distributed system.
- The planned research for this study consisted of a set of questionnaires developed by INPUT in close coordination with participating clients, used for both telephone and on-site interviews.
- Interviews were conducted during the fourth quarter of 1979.
- The interview sample of 99 companies provided three types of respondents:
  - End users (72).
  - EDP managers (59).
  - Financial executives (21).
- The research contrasted differences among respondents in approach toward, and involvement in, the decision process for USHS.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

# II EXECUTIVE SUMMARY

## II EXECUTIVE SUMMARY

### A. MARKET FORECAST

- There is a significant market opportunity for user site hardware services offerings from computer services companies now in remote computing services (RCS) markets.

  - INPUT forecasts the total USHS market in 1984 to be $1 billion (Exhibit II-1), which is 13% of the forecasted RCS market.

  - The utility processing services portion of the USHS market, the focus of this study, is forecast to be $300 million by 1984, which is 15% of the forecasted utility services market.

    . Utility services is a new USHS market and is typified by the offerings of National CSS, Inc., ADP Network Services, Inc., and GEIS Company.

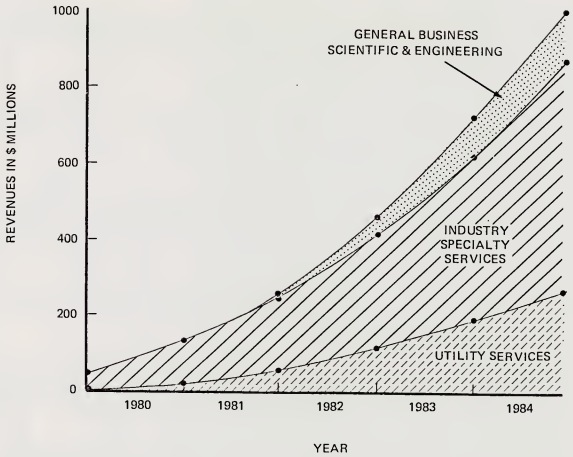
    . This market is vulnerable to competition from minicomputer vendors and RCS companies.

  - The industry specialty services portion of the USHS market is forecast to be $600 million by 1984.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT II-1

USER SITE HARDWARE SERVICES
MARKET IN THE UNITED STATES






© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- Industry specialty services, a more developed market with many active vendors, is less vulnerable to competition from minicomputer vendors.

- Utility services and industry specialty services together are expected by INPUT to represent 90% of the USHS market in 1984.

- The USHS market is driven by cost, which makes conversion of RCS services to in-house systems increasingly attractive to users.

  - This is due, in large measure, to continuing reduction in both hardware computational and data storage costs.

  - However, users' inability to track and put a budgetary ceiling on RCS costs is also a very important factor.

- User site hardware services, part of the evolving distributed data processing market, represent a significant new delivery system alternative to traditional remote computing services.

  - Market potential for USHS vendors is excellent. USHS offers low-cost entry into the distributed data processing market, a market now primarily in-house.

  - Other significant advantages offered by a USHS market strategy include:

    - A potential method of getting a portion of in-house timesharing expenditures.

    - Evolving specialized services utilizing proprietary software systems integrated with network services.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

. Providing entry into the small user area where EDP expenditures are less than $2,000 per month.

## B. MARKET STRATEGY AND MARKET PENETRATION

### 1. MARKET STRATEGY

- Key reasons for buying USHS (as shown in Exhibit II-2) should be reflected in the formation of vendor marketing strategy.

  - End users and EDP managers, both essential to buying USHS, should both be included in USHS marketing plans.

  - In some instances, both agree as to the most important reasons for buying USHS, as in the case of Exhibit II-2, where the combined ratings of both end users and EDP managers are complimentary.

  - Cost effectiveness is the most compelling reason for replacing RCS with USHS.

    . USHS conversions of RCS achieved cost savings averaging 40%, ranging to 60%, among existing users in this study.

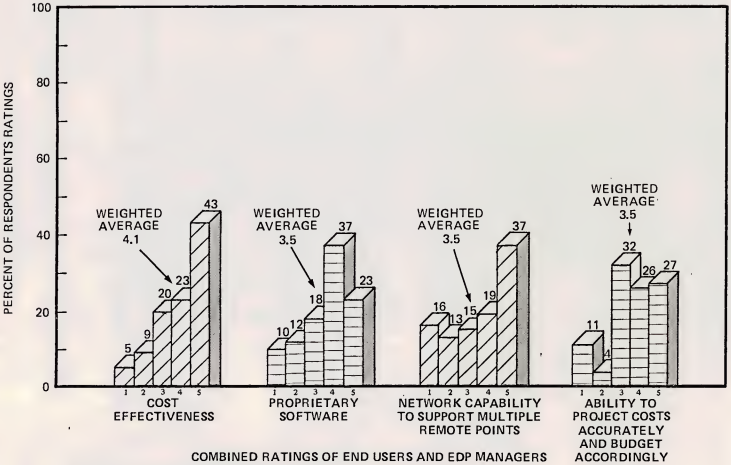
    . RCS costs are regarded by users as being too high. They are also regarded as being unpredictable, making budgeting difficult.

- However, EDP managers, protecting their empires, did not feel that USHS could be as cost effective for in-house timesharing as present mainframes.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT II-2

KEY AREAS OF AGREEMENT AMONG
EDP MANAGERS AND END USERS FOR BUYING USHS




NUMBER OF END USER RESPONDENTS = 61
NUMBER OF EDP MANAGER RESPONDENTS = 56
NOTE: RATED ON A SCALE WHERE 1 = LEAST IMPORTANT AND 5 = MOST IMPORTANT

© 1990 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- The prevalent reason for rejecting USHS found in the study was EDP and corporate management reasoning that USHS was less cost effective than incrementally adding to mainframe capacity to provide time-sharing in-house.

- The prevalent attitude of EDP managers highlights the need to coordinate the marketing of USHS to EDP managers, as well as to end users.

- End users and EDP managers agreed on the importance of vendor proprietary software for USHS.

- Network capability to support multiple remote points was rated highly by both end users and EDP managers.

  - Initially, the network was not regarded as essential by some users, but communications capability was recognized as being essential in future years.

- In other instances, end users and EDP managers rated major reasons for buying USHS very differently, reflecting their contrasting interests and responsibilities, as shown in Exhibit II-3.

  - End users feel that EDP departments are unable to provide internal services equivalent to USHS.

    . Applications development backlogs are averaging 20 months and growing larger.

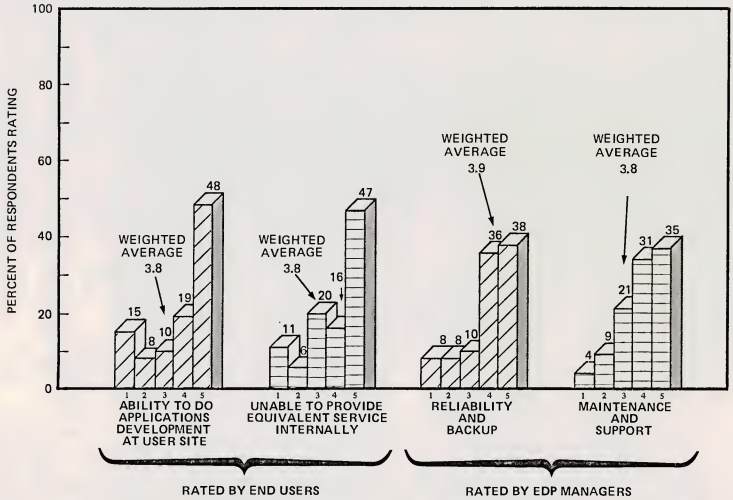
  - End users want to improve turnaround by having a USHS capability for doing applications development at users' sites.

  - EDP managers gave more priority than did end users to reliability/backup and to maintenance/support.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT II-3

REASONS FOR BUYING USHS AS
RATED SEPARATELY BY END USERS AND EDP MANAGERS




NOTE: RATED ON A SCALE WHERE 1 = LEAST IMPORTANT AND 5 = MOST IMPORTANT

© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- Other reasons for buying USHS that received low ratings from both end users and EDP managers were:

  - Offloading the in-house mainframe.

  - Consolidating outside RCS timesharing contracts.

  - Providing access to remote data bases.

2. MARKET PENETRATION

- National CSS, Inc. market strategy is to sell the IBM-compatible NCSS 3200 series initially as a standalone processor, integrated with NCSS operating software, and optional integration with the NCSS network, using the network for distributed data processing, backup mainframe processing, and maintenance.

  - The 3200 is offered for purchase or third party lease.

  - Initial emphasis is to install the units on a standalone basis, with a later effort to tie them to the network after the 3200s have met with customer acceptance.

- INPUT estimates that at year end 1979, NCSS had sold twenty-six 3200 series systems.

  - Including maintenance and network charges, INPUT estimates the total revenues from these sales to be $7.5 million.

  - NCSS revenues from USHS deliveries in 1979 were $5.7 million.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- ADP Network Services, Inc. strategy is to lease the ONSITE system, integrated with ADP operating software, and with the ADP network, using the network for data communications, backup mainframe processing, and maintenance.

  - INPUT estimates that at year end 1979, ADP had installed 29 ONSITE systems.

  - The ongoing lease base from these installations is estimated to be $6 million per year.

  - INPUT estimates ADP 1979 revenues for USHS to be $3.5 million.

- GEIS Company MARKLINK distributed system is offered for lease or purchase on an unbundled basis. Intelligent terminals are integrated with GEISCO operating software, the MARK III network, and GEISCO clustered computer centers. The network is used for data communications, processing and maintenance.

  - MARKLINK was introduced late in 1978; the product expanded late in 1979, with marketing efforts now being intensified.

  - The first MARKLINK installation is an 800 terminal, national inventory control system for the GE Supply Company. The system is now partially operational.

  - MARKLINK, if successful in the commercial marketplace, will address a larger potential market than that addressed by NCSS or ADP. It is too early to predict market penetration.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

## C. BUYING PROCESS

- The process for procuring computer equipment and services involves an interaction among the end user, EDP manager, financial management, and top management, with different levels of involvement during the procurement process.

  - Identifying need and establishing justification is a joint effort by end users and EDP managers, with occasional contribution by corporate financial officers.

  - Vendor selection is controlled by the EDP manager. End users have an involvement in the selection, but not the responsibility.

  - Vendor approval involves both the chief financial officer and top management, acting on the recommendations of the EDP manager.

  - Final approval of the procurement is generally reserved for corporate management, with recommendations from the chief financial officer.

  - The trend in computer equipment and services procurement is toward increased centralization, with corporate management increasing control of the final decision.

- The procurement process is taking an average of five months (ranging up to 24 months) from initiation to final decision for systems over $100,000.

  - The process is taking longer and growing more complex as purchases are more closely scrutinized by management.

- End users have little authority to procure computer equipment or services on their own.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- End users and EDP managers are working together in this regard, with the EDP manager generally controlling the procurement.

- End users are developing greater sophistication in data processing as equipment is installed at the user's site. However, users are not presently separating themselves from EDP managers.

- INPUT expects, as time goes on, that end users will have a significantly greater voice in placing intelligence on-site for applications development and operation.

  - EDP managers, in a cooperative effort with end users, will (for purposes of standardization, compatibility, reliability, and maintenance) retain control over hardware and system support software procurement.

- Users have a decided preference for unbundled pricing, but have little preference for purchase versus lease pricing.

- End users and EDP managers have minimal knowledge of the USHS concept or of current vendors' USHS offerings.

  - Their knowledge of, and attitude toward, USHS can be greatly improved by marketing efforts of USHS vendors.

  - The rate of USHS market expansion will be a direct reflection of increased vendor product offerings both in the utility and specialty processing services segments of the RCS marketplace.

## D. RECOMMENDATIONS

- INPUT recommends that SEI expand efforts in marketing Trust-Aid as user site hardware services.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- SEI risks erosion of its existing client base, together with lost opportunities to participate in DDP, without an expanded USHS product strategy.

- The most important reason for buying USHS is the reduction in user EDP expenditures made possible by on-site minicomputers.

- SEI user site hardware services offerings should continue to be based on proprietary software, aimed at the industry specialty processing services market segment.

- SEI should consider offering the following additional specialty applications on USHS:

  - Portfolio analysis.

  - Financial and economic data base access.

- General problem solving based on the ability of end users to do some of their own programming on USHS should also be considered.

- Marketing strategy should emphasize single application utilization at remote sites, considering the sale of each standalone product as part of a potential DDP node.

- Prospects are good for extending initial SEI installations to multiple sites.

  - None of the existing USHS users interviewed had more than one installation, but several have plans to extend use to multiple sites in the next three years.

  - INPUT expects the number of intelligent terminals and distributed processors in networks to double over the next five years, accounting for 50% of all EDP services to remote locations.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- Compatibility issues are important and should be stressed.
  - Trust department installations need to interface with other financial institutions for securities custody, securities clearance, and stock transfer applications.
  - In some cases, there is also a need to interface with the in-house mainframe.
  - The USHS offering should provide SNA compatibility with in-house IBM mainframes.
    - An important use of USHS is timesharing, using data from the user's or other financial institution's mainframes.
- Service and maintenance issues are important and must be addressed.
  - End users are skeptical as to remote computing services vendors' abilility to adequately service and maintain a nationally installed base of on-site minicomputers.
- End users would prefer IBM as the source of computers for USHS.
  - However, assuming that the difficult problems of compatibility and service issues are solved, they find minicomputer vendors like DEC, H-P, Two Pi, Prime, etc., almost equally acceptable.
  - If margins will allow competitive pricing, an IBM-based USHS offering would be a most attractive product.
- INPUT believes that consultive selling of USHS is important and should be a basic part of marketing efforts.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- Current vendors of USHS are spending an average of nine person months per installation for sales, sales support, and technical effort.

- Billing practices vary, but well over half of the effort is billed separately.

- There is pressure in the trust department to break away from the EDP department.

  - New trust systems require more involvement by operational users.

  - Applications development should be provided for at the user's site.

  - There is movement toward self-sufficiency in all operating areas.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

# III USER ISSUES

# III USER ISSUES

## A. CURRENT TRUST PROCESSING

- INPUT interviewed 22 bank trust department end users in the course of the study. Over one-half (55%) reported using computer services vendors to process mainline trust applications, as shown in Exhibit III-1.

- Four respondents using in-house EDP for trust processing also reported using RCS services for:

  - Employee benefits accounting.

  - Stock transfer.

  - Investment analysis.

  - Tax preparation.

- Three respondents using in-house EDP for trust processing reported using minicomputer systems in the trust department for data entry and validation.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-1

CURRENT METHOD OF PERSONAL TRUST DATA
PROCESSING AS REPORTED BY
TRUST DEPARTMENT RESPONDENTS

| BANK SIZE | IN-HOUSE | | RCS VENDOR | TOTAL |
|---|---|---|---|---|
| | MAINFRAME | MINI | | |
| LARGE | 7 | 1 | 4 | 12 |
| MEDIUM | 1 | – | 5 | 6 |
| SMALL | 1 | – | 3 | 4 |
| TOTAL | 9 | 1 | 12 | 22 |



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

## B. TRUST APPLICATIONS AUTOMATED

- Major trust department applications using EDP, as reported by respondents, are shown in Exhibit III-2. In addition to mainline applications, respondents were using EDP for a wide variety of ancillary functions:

  - 64% of respondents used predominately RCS services for investment analysis.

  - 36% of medium and large size trust departments used general time-sharing.

  - 27% of medium and large size trust departments used automated cost accounting.

- Nine respondents also reported they planned to automate one or more of the following applications in the near future:

  - Cost accounting.

  - Securities reconciliation.

  - Employee benefit trust.

  - Security movement and control.

## C. ROLE IN TRUST SYSTEM SELECTION

- Exhibit III-3 shows that the major portion (77%) of end user respondents felt that they already had control over the method of handling trust application processing.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-2

MAJOR TRUST APPLICATIONS USING EDP
AS REPORTED BY TRUST DEPARTMENT RESPONDENTS

| APPLICATION | NUMBER OF RESPONDENTS | | | |
|---|---|---|---|---|
| | SMALL | MEDIUM | LARGE | TOTAL |
| PERSONAL TRUST | 4 | 6 | 12 | 22 |
| EMPLOYEE BENEFIT TRUST | 2 | 5 | 10 | 17 |
| CORPORATE TRUST | 2 | 3 | 10 | 15 |
| INVESTMENT ANALYSIS | 1 | 3 | 10 | 14 |
| SECURITY MOVEMENT AND CONTROL | 2 | 4 | 6 | 12 |
| PARTICIPANT ACCOUNTING | 1 | 2 | 8 | 11 |
| GENERAL TIMESHARING | – | 3 | 5 | 8 |
| COST ACCOUNTING | – | 1 | 5 | 6 |
| CASH MANAGEMENT | – | 2 | 2 | 4 |
| PERFORMANCE MEASUREMENT | 1 | – | 2 | 3 |
| MASTER TRUST | – | – | 3 | 3 |



©1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-3

ASSESSMENT OF CHANGING ROLE OF END USER IN
TRUST DEPARTMENT COMPUTER/SERVICE PROCUREMENT
AS REPORTED BY TRUST DEPARTMENT RESPONDENTS

| BANK SIZE | END USER ROLE CHANGE | | TOTAL |
|---|---|---|---|
| | YES | NO | |
| LARGE | 3 | 9 | 12 |
| MEDIUM | 1 | 5 | 6 |
| SMALL | 1 | 3 | 4 |
| TOTAL | 5 | 17 | 22 |



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

- A number of the respondents believed that their role in computer/services procurement is increasing. Representative comments on the factors involved are found in Exhibit III-4.

## D. USHS INTEREST

- A significant number (80%) of respondents would consider using USHS to provide trust processing development and operation. High awareness of USHS possibilities to solve trust operational problems speaks well for vendor future marketing plans.

- Among the vendors shown in Exhibit III-5, SEI was by far the vendor respondents most favored (89%) for considering using USHS.

- Respondents mentioned using Comshare for ancillary services such as investment analysis and employee benefits accounting.

## E. USHS APPLICATIONS

- As shown in Exhibit III-6, respondents wanted to place both mainline and ancillary applications on USHS. Beside investment analysis and cost accounting, respondents from medium and large size trust departments wanted timesharing for internal applications development on USHS.

  - Large trust department respondents who intended to keep mainline trust applications running on in-house EDP, still wanted USHS for ancillary applications such as participant accounting, investment analysis, and tax return preparation.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-4

TYPICAL RESPONDENT COMMENTS ON THE END USER ROLE IN TRUST COMPUTER/SERVICES SELECTION

"The trend will be to go to outside vendors to spread the costs of system revision and maintenance over a large number of users."

"I think that eventually we will go to minis."

"We will soon be able to look to outside vendors on their own merits."

"There is tremendous pressure in the trust department to break away from D.P. The EDP Department cannot handle all the variables and state of the art changes involved."

"The next trust system selected will have much more involvement by the operational users."

"The recent corporate philosophy is that each operating area should be self-sufficient – including its EDP."

"We now have our own systems analyst within the trust department."



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-5

TRUST SERVICES VENDORS THAT
TRUST DEPARTMENT RESPONDENTS WOULD
CONSIDER FOR USHS

| VENDOR | NUMBER OF RESPONDENTS |
|---|---|
| SEI | 16 |
| BRADFORD | 9 |
| SHEAR | 6 |
| COMSHARE | 5 |
| ADP | 2 |
| OTHER | 4 |

NUMBER OF RESPONDENTS = 18



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-6

APPLICATIONS TRUST DEPARTMENT RESPONDENTS
WOULD CONSIDER OPERATING ON USHS

| APPLICATION | RESPONDENTS | | | |
|---|---|---|---|---|
| | TRUST DEPARTMENT SIZE | | | |
| | SMALL | MEDIUM | LARGE | TOTAL |
| PERSONAL TRUST | 2 | 6 | 7 | 15 |
| CORPORATE TRUST | 2 | 3 | 5 | 10 |
| PARTICIPANT ACCOUNTING | 1 | 4 | 4 | 9 |
| INVESTMENT ANALYSIS | 2 | 4 | 7 | 13 |
| SECURITY MOVEMENT AND CONTROL | 2 | 3 | 6 | 11 |
| EMPLOYEE BENEFIT TRUST | 1 | 4 | 7 | 12 |
| MASTER TRUST | — | — | 3 | 3 |
| COST ACCOUNTING | — | 3 | 5 | 8 |
| GENERAL TIMESHARING | — | 3 | 2 | 5 |
| PERFORMANCE MEASUREMENT | 1 | — | 1 | 2 |
| TAX RETURN ACCOUNTING | — | 3 | 1 | 4 |

NUMBER OF RESPONDENTS = 17



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

## F. USHS INTERFACES

- The data in Exhibit III-7 indicate that trust department respondents are much more interested in having USHS interface with outside functions rather than within the bank itself. This stems from both legal and traditional separation of trust and commercial department activities to avoid any semblance of "conflict of interest."

- Respondents are interested in having USHS interface with other RCS vendors for access to stock quotations, and financial and economic data bases.

- Interfacing USHS with other financial institutions will aid trust departments in securities custody, security clearance, and stock transfer applications.

## G. TRUST MASTER FILE AVAILABILITY

- Exhibit III-8 shows that across all trust department size groups, respondents are about equally divided on the question of needing the trust master file updated on-line and in real time.

  - The major portion (72%) felt that having the master file on-line for inquiry during working hours was much more important than being able to update in real time.

- Representative comments by respondent trust department end users are found in Exhibit III-9.



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-7

TRUST DEPARTMENT RESPONDENTS' NEEDS
FOR USHS INTERFACES

| INTERFACED WITH | NUMBER OF RESPONDENTS | | |
|---|---|---|---|
| | YES | NO | DON'T KNOW |
| IN-HOUSE MAINFRAME | 5 | 10 | 7 |
| OTHER BANK DEPARTMENT | 4 | 14 | 4 |
| OTHER RCS VENDORS | 8 | 10 | 4 |
| OTHER FINANCIAL INSTITUTIONS | 10 | 9 | 3 |

NUMBER OF RESPONDENTS = 22


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-8

IMPORTANCE OF UPDATING TRUST MASTER FILE
ON-LINE AND IN REAL TIME AS REPORTED
BY TRUST DEPARTMENT RESPONDENTS

| DEGREE OF IMPORTANCE | RESPONDENTS | | | |
|---|---|---|---|---|
| | TRUST DEPARTMENT SIZE | | | |
| | SMALL | MEDIUM | LARGE | TOTAL |
| VERY IMPORTANT | 1 | 3 | 5 | 9 |
| IMPORTANT | 2 | – | 1 | 3 |
| NOT IMPORTANT | 1 | 3 | 6 | 10 |
| TOTAL | 4 | 6 | 12 | 22 |

NUMBER OF RESPONDENTS = 22



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-9

TYPICAL COMMENTS BY TRUST DEPARTMENT RESPONDENTS ON IMPORTANCE OF UPDATING TRUST MASTER FILE ON-LINE AND IN REAL TIME

"Don't feel it necessary for real time. On-line access is what's important."

"The investment officer needs to know where he stands at all times."

"Customers walk in the door and want to see status of their accounts. On-line access assists in meeting this type of inquiry."

"We need on-line input during the day with batch update at night. We do need on-line inquiry."

"Trust officers expect this based on capabilities of existing personal trust systems."

"Trust processing needs to be on-line. Entry, edit and on-line inquiry are important. I'm not sure on real-time aspects."

"We're hoping to do this in 1980. Cash management is where you need immediate access in real-time."



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

## H. USHS CHARACTERISTICS

- A list of functions with their corresponding importance as reported by multiple respondents is shown in Exhibit III-10.
  - At least two respondents reported their assessment for each item.
  - Reliability and on-line operation were reported by at least six respondents.
- The data indicate that a services pricing structure is possible whereby a base price is charged for USHS service with incremental pricing for added features.


© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

EXHIBIT III-10

IMPORTANCE OF USHS FUNCTIONS AS
REPORTED BY TRUST DEPARTMENT RESPONDENTS

| FUNCTIONS | PREMIUM | MANDATORY | ADVANTAGE | PROBLEM |
|---|---|---|---|---|
| SECURITY MOVEMENT AND CONTROL | X | | | |
| ERISA COMPLIANCE | X | | | |
| EASE OF SOFTWARE MODIFICATION | X | | | |
| REAL TIME UPDATE | X | | | |
| CONTINUOUS SOFTWARE ENHANCEMENT | X | | | |
| EMPLOYEE PARTICIPANT ACCOUNTING | X | | | |
| AUTOMATED PRICING OF STOCKS AND BONDS | X | | | |
| ON-LINE | | X | | |
| RELIABILITY | | X | | |
| IBM COMPATIBLE | | X | | |
| GOOD RESPONSE TIME | | | X | |
| PRICING STRATEGIES | | | X | |
| ON-SITE MAINTENANCE | | | | X |
| EDP PERSONNEL IN TRUST DEPARTMENT | | | | X |
| VENDOR FINANCIAL STABILITY | | | | X |
| SYSTEM BACKUP | | | | X |
| INFLEXIBLE PROGRAM AND ADMINISTRATIVE REPORTS | | | | X |



© 1980 by INPUT, Palo Alto, CA 94303. Reproduction Prohibited.

## ABOUT INPUT

### THE COMPANY

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services.

The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's staff members analyze and interpret the research data, then develop recommendations and innovative ideas to meet clients' needs. Clients receive reports, presentations, access to data on which analyses are based, and continuous consulting.

Many of INPUT's professional staff members have nearly 20 years experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed in 1974, INPUT has become a leading international consulting firm. Clients include over 100 of the world's largest and most technically advanced companies.


**UNITED STATES, West Coast**
2471 East Bayshore Road
Suite 600
Palo Alto, California 94303
(415) 493-1600
Telex 171407

**UNITED STATES, East Coast**
Park 80 Plaza West-1
Saddle Brook, New Jersey 07662
(201) 368-9471

**UNITED KINGDOM**
INPUT Europe
Airwork House (4th Floor)
35 Piccadilly
London, W.1.
England
01-734-2156
Telex 269776

**AUSTRALIA**
Infocom Australia
Highland Centre, 7-9 Merriwa Street
P.O. Box 110, Gordon N.S.W. 2072
(02) 498-8199
Telex AA 24434

**ITALY**
PGP Sistema SRL
20127 Milano
Via Soperga 36
Italy
Milan 284-2850

**JAPAN**
Overseas Data Service Company, Ltd.
Shugetsu Building, No. 12-7 Kita Aoyama
3-Chome Minato-Ku
Tokyo, 107
Japan
(03) 400-7090